

WHAT IS CLAIMED IS:

- 1 1. A method of detecting a DNA in a milk sample, said method
2 comprising the steps of:
 - 3 (a) contacting said milk sample with a metal ion chelator;
 - 4 (b) contacting said milk sample with a detergent;
 - 5 (c) after steps (a) and (b), detecting said DNA thereby detecting the DNA in
6 said milk sample.
- 1 2. The method of claim 1, wherein no protease is added to said milk
2 sample.
- 1 3. The method of claim 1, wherein said detecting said DNA is
2 quantitating said DNA, thereby determining the somatic cell count within the milk sample.
- 1 4. The method of claim 3, wherein said milk sample is a crude bovine
2 milk sample.
- 1 5. The method of claim 1, wherein said metal ion chelator is a member
2 selected from the group of EDTA, CyDTA, DHEG, DTPA-OH, DTPA, EDDA, EDDP,
3 EDDPO, EDTA-OH, EDTPO, EGTA, HBED, HDTA, HIDA, IDA, Methyl-EDTA, NTA,
4 NTP, NTPO, O-Bistren, and TTHA, o-phenanthroline, dipicolinic acid, and deferoxamine.
- 1 6. The method of claim 1, wherein said metal ion chelator is EDTA.
- 1 7. The method of claim 1, wherein said detergent is a non-ionic detergent.
- 1 8. The method of claim 7, wherein said non-ionic detergent is a member
2 selected from the group of Octylglucoside, Digitonin, C12E8, Lubrol, Triton X-100, Nonidet
3 P-40, Tween-80, Tween-20, BRIG 35, Dodecyl maltopyranoside, Heptyl
4 thioglucopyranoside, Pluronic F-127, Genapol X-080, MEGA 10.
- 1 9. The method of claim 1, wherein said detergent is Tween-20.
- 1 10. The method of claim 1, further comprising
 - 2 (c) contacting said milk sample with a detectable DNA probe;
 - 3 (d) after steps, (a), (b), and (c), detecting said detectable DNA probe thereby
4 detecting said DNA in said milk sample.

1 11. The method of claim 1, wherein the pH of the milk sample is between
2 8.0 and 11.0, inclusive.

1 12. An analytical composition comprising a milk sample, a metal ion
2 chelator, and a detergent, wherein said milk sample comprises a nucleic acid.

1 13. The composition of claim 12, wherein said milk sample is a crude milk
2 sample.

1 14. The composition of claim 12, wherein said nucleic acid is a DNA.

1 15. The composition of claim 14, wherein said composition further
2 comprises a detectable DNA probe.

1 16. The composition of claim 12, wherein said composition does not
2 include a protease.

1 17. The composition of claim 12, wherein said metal ion chelator is a
2 member selected from the group of EDTA, CyDTA, DHEG, DTPA-OH, DTPA, EDDA,
3 EDDP, EDDPO, EDTA-OH, EDTPO, EGTA, HBED, HDTA, HIDA, IDA, Methyl-EDTA,
4 NTA, NTP, NTPO, O-Bistren, and TTHA, o-phenanthroline, dipicolinic acid, and
5 deferoxamine.

1 18. The composition of claim 12, wherein said metal ion chelator is
2 EDTA.

1 19. The composition of claim 12, wherein said detergent is a non-ionic
2 detergent.

1 20. The composition of claim 19, wherein said non-ionic detergent is a
2 member selected from the group of Octylglucoside, Digitonin, C12E8, Lubrol, Triton X-100,
3 Nonidet P-40, Tween-80, Tween-20, BRIG 35, Dodecyl maltopyranoside, Heptyl
4 thioglucopyranoside, Pluronic F-127, Genapol X-080, MEGA 10.

1 21. The composition of claim 12, wherein said detergent Tween-20.

1 22. A kit for detecting a nucleic acid in a milk sample comprising a metal
2 ion chelator, a detergent, and a detectable DNA probe.

- 1 23. The kit of claim 22 further comprising a fluorescence detection system.